tients in other parts of the hospital. Most of the reported cases[1,2] involved adult patients who had acute coronary occlusion in a hospital setting.

Complete heart block is a rare complication of surgical repairs of the heart and the prognosis is poor. In the present case, the patient's parents were able to initiate a cardiac impulse after cardiac arrest in the home, using mouth-to-mouth pulmonary resuscitation and closed-chest cardiac massage by sternal compression.

Department of Pediatrics, U.C.L.A. School of Medicine, Los Angeles 24.

REFERENCES

1. Holswade, G. R., Bogen, J. G., Baldwin, J. N., and Goldsmith, E. I.: Resuscitation from nonsurgical sudden apparent death due to coronary occlusion, J. Am. Geriat. Soc., 8:889-900, Dec. 1960.

2. Kouwenhoven, W. B., Ing, D., Jude, J. R., and Knickerbocker, G. G.: Closed-chest cardiac massage, J.A.M.A., 173:1064-1066, July 1960.

False Aneurysm of the Facial Artery

A. J. GHERINI, *M.D.*, Gilroy; and
D. R. HOVDE, *M.D.*, and
C. J. HESSE, *D.D.S.*, Oakland

EXCEPT for one reported by Pettiti and Jennings[1] in 1952, we could find in the literature no report similar to the following case of false aneurysm of the facial artery resulting from a gunshot wound of the face.

REPORT OF A CASE

A 35-year-old man six feet three inches tall and weighing two hundred and twenty-five pounds was admitted to the Veteran's Hospital, Oakland, September 28, 1960, by transfer from another hospital where for two days he had been treated for a gunshot wound received when a .32 caliber revolver accidentally discharged. The bullet had shattered the right mandible, passing through the floor of the mouth and lodging in the left side of the neck posteriorly. The patient had been admitted to the previous hospital shortly after the accident. There, apparently because of considerable bleeding and pronounced facial and intraoral swelling, tracheostomy was done soon after he was admitted. He had received penicillin, streptomycin and chymotrypsin intramuscularly, as well as tetanus toxoid and tetanus antitoxin in adequate dosages.

At the time of admission to the Veteran's Administration Hospital, the tracheostomy tube was in place and the patient answered questions by shaking or nodding his head. Although he was in moderate distress, he was alert and cooperative. There were areas of decided firm swelling over the right jaw and cheek and in the submental area. No crepitation was noted. A foreign body was palpated just beneath the skin of the lateral aspect of the left side of the neck, toward the back. There was a small puncture wound approximately 1 cm. in length over the lateral aspect of the right jaw. Upon examination inside the mouth an obvious fracture of the body of the right mandible was observed and the first molar tooth was badly shattered. The floor of the mouth and the tongue were swollen and there was considerable ecchymosis. The teeth could not be brought into proper occlusion.

Oral temperature at the time of admission was 101.0° F., the pulse rate 100, blood pressure 140/80 mm. of mercury and respirations 20 per minute. Results of urinalysis and examination of the blood were within normal limits. X-ray films of the chest showed considerable increase in markings in both lungs, with some tendency to patchiness suggesting bronchopneumonia. Roentgen studies of the right mandible showed a decidedly comminuted fracture, with loss of bony substance and numerous tiny opaque foreign bodies scattered in the bone and soft tissue about the fracture. The biggest of the foreign body fragments was approximately a centimeter long and half a centimeter thick. It lay in the soft tissues of the left side of the neck, slightly below and about two centimeters posterior to the angle of the mandible on the left.

The patient was admitted to the Surgical Intensive Care Unit. Penicillin, 600,000 units twice a day and streptomycin 0.5 gm. twice a day were given intramuscularly. On September 29 debridement at the fracture site inside the mouth was carried out, the fracture was reduced and the mandible was immobilized by intermaxillary wiring. As the swelling about the right cheek, neck and face subsided, a small area of swelling approximately 3 centimeters in diameter persisted in the area of the entry of the bullet. By the morning of October 12, a pulsation could be felt and seen in this swollen area. Soon afterward, intra-oral bleeding began from this site. These developments were attributed to false aneurysm due to trauma of the facial artery. With the patient under general anesthesia and with an endotracheal tube in place, the right facial artery was clamped, cut and tied with interrupted sutures of No. 20 cotton. However, due to collateral circulation this did not control the pulsation in the swollen area. It was necessary to open the swollen area and tie off the vessel in several places with 4-0 arterial silk to control the bleeding. The aneurysm was located in this area. Such hemostasis as was obtained at the time of direct opening was obtained by pressure of the assistant's thumbs and fore-

From the Surgical Service and the Dental Service, Veterans Administration Hospital, Oakland 12.

Submitted April 27, 1961.

fingers. No foreign bodies were found. The patient recovered promptly and was discharged on December 19, 1960.

DISCUSSION

According to Pettiti and Jennings, the terms *false aneurysm* and *pulsating hematoma* are used interchangeably in the literature to designate any arterial tear which results in a blood-filled or clot-filled sac into which arterial blood continues to flow. The enclosure may consist of no more than a partially organized clot bound by muscle, fascia or skin surfaces, or it may be a fibrous, well-organized wall, depending on the site and duration of the lesion. False aneurysms in the region of the face are probably uncommon because the arteries about the face are usually of small caliber. In the large patient in the present case, however, it was noted at the time the right facial artery was ligated and sectioned that the vessel was large. There are reports of false aneurysm occurring in penetrating wounds of the extremities and about the neck where, the arteries being larger and the fascial planes definite, hematomas may more readily form. Trauma is the usual cause. False aneurysms are rare because as a rule when a large artery is pierced the companion vein is also pierced, making the formation of an arteriovenous fistula considerably more likely than an aneurysm. If there is complete severance of an artery, the ends of the severed artery retract and although a clot forms locally, the contiguity of the blood flow is broken. In light of the generous supply of collateral circulation about the face, it is not surprising at all that the aneurysm in the present case did not cease to pulsate when the right facial artery was ligated and sectioned. Ligating and sectioning the left facial artery, in addition to the right, probably would have been no more effective than was the procedure on the right artery only, for leading into this area from the left facial artery is a vast collateral circulation consisting mainly of the superior labial artery and the inferior labial artery.

497 North Carmel Street, Gilroy (Gherini).

REFERENCE

1. Pettiti, Leonard, and Jennings, Hal B., Jr.: False aneurysm of the facial artery, U. S. Armed Forces Medical Journal, Vol. 3, No. 5, p. 781-784, May 1952.